

### **Remarks**

The Examiner states that the Applicant's arguments are not persuasive because "gain fibers" cannot be considered to be implicit in the claims.

However, as the Examiner will appreciate, it is clear from a reading of the specification that the invention is intended to relate to gain fibers. For example, the background of the invention at lines 8 and 9 of page 1 begins "Fiber amplifiers provide gain by the stimulated emission of radiation. A fiber amplifier typically includes a gain fiber ..." The background of the invention then describes some of the problems associated with gain fiber design for optical amplifiers, and the detailed description describes how gain fiber design parameters can be selected to overcome these problems.

In order to clarify this essential feature of the invention, independent claims 1, 4, 7, 8 and 9 have been amended so that they are now directed to optical amplifiers comprising one or more gain fibers. The claim amendments also clarify that the limitations apply to the gain fiber, and not a transmission fiber.

It is submitted that this amendment traverses the Examiner's objection that "gain" fibers cannot be considered implicit by making them explicit.

The Examiner also states that, even if gain fibers were claimed, the Applicant's arguments do not address the invention as claimed because the use and application of gain fibers are not argued to distinguish it from the prior art. We dispute this allegation.

The invention as claimed is distinguished from the prior art by the inclusion of a gain fiber having a mode field diameter greater than 10 $\mu$ m. In this respect, Applicant

refers the Examiner back to the detailed arguments in favor of non-obviousness set out in the response filed July 23, 2003.

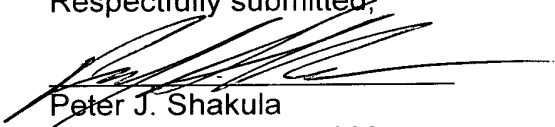
In summary, it is submitted that one of ordinary skill in the art of gain fiber design would not have been motivated to design a gain fiber having a large mode field diameter as claimed, since it goes wholly against conventional design wisdom.

Accordingly, it is submitted that these arguments address the invention as claimed.

It is submitted that this application is now in condition for allowance. Favorable reconsideration is therefore respectfully requested.

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Respectfully submitted,



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